

University of Massachusetts Medical School

eScholarship@UMMS

---

UMass Center for Clinical and Translational  
Science Research Retreat

2012 UMass Center for Clinical and  
Translational Science Research Retreat

---

May 22nd, 4:30 PM - 6:00 PM

## Importance of clinically-refined medical and musculoskeletal co-morbidities in registries that evaluate patient-reported outcomes following TKR

Patricia D. Franklin  
*University of Massachusetts Medical School*

*Et al.*

### Let us know how access to this document benefits you.

Follow this and additional works at: [https://escholarship.umassmed.edu/cts\\_retreat](https://escholarship.umassmed.edu/cts_retreat)



Part of the [Community Health and Preventive Medicine Commons](#), [Health Services Research Commons](#), and the [Orthopedics Commons](#)

---

Franklin PD, Li W, Otis C, Snyder B, Rosal MC, Ayers DC. (2012). Importance of clinically-refined medical and musculoskeletal co-morbidities in registries that evaluate patient-reported outcomes following TKR. UMass Center for Clinical and Translational Science Research Retreat. Retrieved from [https://escholarship.umassmed.edu/cts\\_retreat/2012/posters/27](https://escholarship.umassmed.edu/cts_retreat/2012/posters/27)

Creative Commons License



This work is licensed under a [Creative Commons Attribution-Noncommercial-Share Alike 3.0 License](#). This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in UMass Center for Clinical and Translational Science Research Retreat by an authorized administrator of eScholarship@UMMS. For more information, please contact [Lisa.Palmer@umassmed.edu](mailto:Lisa.Palmer@umassmed.edu).

## **IMPORTANCE OF CLINICALLY-REFINED MEDICAL AND MUSCULOSKELETAL CO-MORBIDITIES IN REGISTRIES THAT EVALUATE PATIENT-REPORTED OUTCOMES FOLLOWING TKR**

Patricia D. Franklin<sup>1</sup>; Wenjun Li<sup>3</sup>, PhD; Carol Otis, PhD; Benjamin Snyder<sup>1</sup>, MD MS; Milagros Rosal<sup>3</sup>, PhD; David C. Ayers<sup>1</sup>, MD

UMass Medical School departments of: <sup>1</sup>Orthopedics and Physical Rehabilitation, <sup>2</sup>Preventive and Behavioral Medicine, <sup>3</sup>Arcadia University

Contact: Patricia D. Franklin, MD MBA MPH, Email: [patricia.franklin@umassmed.edu](mailto:patricia.franklin@umassmed.edu)

**BACKGROUND:** As national joint registries broaden their focus to include patient-reported outcomes, such as pain relief and functional gain, the role of confounding peri-operative complications and co-morbidities must be considered. We hypothesized that emotional, medical, and musculoskeletal co-morbidities influence post-surgical functional gain following primary total knee (TKR) replacement surgery.

**METHODS:** We performed secondary analyses of comprehensive data from 180 primary TKR patients to evaluate the association of age, sex, body mass index (BMI), pre-operative emotional health (SF36 MCS/metal component score and CES-D depression screen), medical comorbidities (modified Charlson index), and musculoskeletal comorbidities (pain in low back, hips, and knees) on change in pre-to-6 month post-TKR physical function (SF36 PCS/physical component score).

**RESULTS:** Patients were 68% female with mean age of 65 years, mean BMI of 32. Mean pre-TKR PCS was 32.0 (SE=0.65), mean MCS was 52.0 (SE= 0.46) and 32% reported pre-TKR CES-D score at the mild to moderate depression level. Musculoskeletal comorbidity was scored as percent of patients with moderate or severe pain; 12% had hip pain, 46% contra-lateral knee pain, 27% low back pain, and 12% foot pain. Six percent reported COPD, 7% cardiac conditions, and 3% renal conditions. A multivariate linear regression model showed BMI>30, lower pre-MCS, lower pre-PCS, moderate or severe low back pain, and higher Charlson co-morbidity score, to be significantly ( $p<0.05$ ) associated with poorer 6 month post-TKR PCS (physical function).

**CONCLUSION:** Pre-operative BMI, emotional health, and medical and musculoskeletal co-morbidities are required to interpret pre-to-post-operative change in physical function. Further understanding of the role of these factors is critical before national registries can analyze and report valid comparisons of patient-reported outcomes.